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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,077	11/26/2001	Frederick Michael Mako	MAKO-8 CONT III	1512

7590 09/11/2002

Ansel M. Schwartz
Suite 304
201 N. Craig Street
Pittsburgh, PA 15213

EXAMINER
LEE, BENNY T

ART UNIT	PAPER NUMBER
2817	

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
995077	Mako et al
Examiner	Group Art Unit

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Peri d f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE Three (3) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☑ Responsive to communication(s) filed on 5 March 2002.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11; 453 O.G. 213.

Disp siti n of Claims

☑ Claim(s) 1-9 is/are pending in the application.

Of the above claim(s)_____ is/are withdrawn from consideration.

☐ Claim(s)_____ is/are allowed.

☑ Claim(s) 1-9 is/are rejected.

☐ Claim(s)_____ is/are objected to.

☐ Claim(s)_____ are subject to restriction or election requirement.

Applicati n Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on_____ is ☐ approved ☐ disapproved.

☑ The drawing(s) filed on 1 Dec 1994 is/are objected to by the Examiner.

☑ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number)_____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received:_____.

Attachm nt(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s)._____

☐ Interview Summary, PTO-413

☐ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other_____

Office Acti n Summary

Part III DETAILED ACTION

It is noted that this application appears to claim subject matter disclosed in prior copending Application No. 348040, filed 1 December 1994. A reference to the prior application must be inserted as the first sentence of the specification of this application or in an application data sheet (37 CFR 1.76), if applicant intends to rely on the filing date of the prior application under 35 U.S.C. 119(e) or 120. See 37 CFR 1.78(a). Also, the current status of all nonprovisional parent applications referenced should be included.

The disclosure is objected to because of the following informalities: Applicants' are again advised that the description of schematically depicted embodiments should include appropriate reference numbers & labels so as to provide a complete description. Also, applicants' are again advised that all graphs or plots should include description of relevant features of the curves. Finally, applicants' are advised that all variable & parameters appearing in the equations or expressions should be strictly defined at their first appearance. Appropriate correction is required.

The disclosure is objected to because of the following informalities: See page 2 & 3 of the attached appendix for specific objections to the specification. Appropriate correction is required.

The drawings are objected to because reference labels should be provided for those figures depicting schematic aspects of the invention (in particular, fig. 1). Correction is required.

The drawings are objected to under 37 CFR § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the circular or rhombehedron shape screens respectively must be shown or the feature canceled from the claim. No new matter should be entered.

Applicants' are required to address this objection in the next response.

Claims 1-9 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the nature of the electron flow between the emitting surface & the section still needs to be clarified. If unidirectional electron flow is what is intended, then it should be clearly claimed. If some other mechanism of electron flow is intended, then such mechanism should be clearly claimed. Even in light of the specification & applicants' comments, this point remains unclear.

In claim 4, note that it is unclear how the "force" (recited herein) is related to the earlier recited instance of "force". For example , is it related to the "oscillating force" recited in claim 1 or to the "force" recited in claim 2, since this claim indirectly depends from both claims? Clarification is needed.

In claims 4-8, it remains unclear which screen is intended by the recited "screen". Applicants' comments indicate that "one or any specific number of screens" is intended. If such is the case, then the claim should be amended to reflect such a situation.

In claim 9, last two paragraphs, it remains unclear what the relationship of the "electron" (respectively recited herein) is relative to the earlier recited "first" & "additional" electrons. For example, is the "electron" a part of the "additional electrons" recited earlier? If such is the case, then it should be so claimed. Clarification is needed.

In addition to the above rejections, the rejections set forth at pages 4 & 5 of the attached appendix should also be addressed.

The specification has been found objectionable for reasons set forth below:

In claim 2, note that "outside the cavity and adjacent" should be rephrased into a more clearer description.

At all occurrences throughout the claims, should "the section" properly be --the transmitting and emitting section-- for a proper characterization.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-4,6,8,9 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Hamilton (of record) for reasons of record, as set forth at pages 5 & 6 of the attached appendix.

Claim 9 is rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Van Gorkom (of record) for reasons of record, as set forth at page 6 of the attached appendix.

Claims 5,7 are rejected under 35 U.S.C. § 103 as being unpatentable over Hamilton (of record) for reasons of record as set forth at page 7 of the attached appendix.

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claim 9 is provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 10 of copending Application No. 992694. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim 9 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 10 of copending application Serial No. 651627. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to have operated the method claimed in the co-pending application within a cavity environment as would have been known by those of ordinary skill in the art.

Serial Number: 995077

Art Unit: 2817

This is a *provisional* obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The obviousness-type double patenting rejection is a judicially established doctrine based upon public policy and is primarily intended to prevent prolongation of the patent term by prohibiting claims in a second patent not patentably distinct from claims in a first patent. *In re Vogel*, 164 USPQ 619 (CCPA 1970). A timely filed terminal disclaimer in compliance with 37 CFR § 1.321(b) would overcome an actual or provisional rejection on this ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR § 1.78(d).

Any inquiry concerning this communication should be directed to Benny Lee at telephone number (703) 308 4902.

BENNY T. LEE
PRIMARY EXAMINER
ART UNIT 2817

Appendix

~~The Abstract of the Disclosure is objected to because of the~~

The disclosure is objected to because of the following informalities: Applicant's are advised that for figures which schematically depict embodiments of the invention, the description of these figures should include a complete description of structures & features therein, and should include the use of reference numbers, where appropriate, to provide for such a complete description. Moreover, for figures which depict graphs or plots associated with the embodiments of the invention, applicants' are advised that the specification description of these graphs or plots should include descriptions which point out or emphasize the nature of the curves or plots depicted, relevant or important aspects of each curve or plot, etc, such as to provide a complete understanding of each graph or plot. Furthermore, applicant's are advised that they should review the specification to make sure that each variable or parameter which appears (is strictly defined (e.g. in words) at it's first occurrence in the equations or expressions, and where necessary provide strict definitions for variable or parameters not yet defined. Appropriate correction is required.

The disclosure is objected to because of the following informalities: Page 2, line 1; page 38, line 20; page 48, line 1: note that a --,-- should be inserted after "system", "22", and

"parameters" respectively. Page 3, line 29, and page 11, line 8, is [illegible] correct spelling. Page 6, line 3, note that "only does cur[illegible]" is vague in meaning (i.e. what "text"?). Page 12, line 1, note that "Rf" should be rewritten as --The rf--. Page 32, line 1, note that "FMTSEC" is vague in meaning. Page 36, line 20; page 41, line 9; page 48, line 8; page 56, line 13: note that "Section 3.5.1", "Section 3.10", "(Sect. 3.4.1)" and "Section 3.10", respectively, are vague in meaning. Page 45, lines 1,2, note that "diocotron instability" is vague in meaning. Page 48, line 23, note that "gives(n)" should be separated for clarity. Appropriate correction is required.

The drawings are objected to because of the following: Note that "fig. 1" needs to be provided with corresponding numbers. In general, the figures with schematic depictions should be labelled with appropriate reference numbers (e.g. figs. 1,2,30,95,etc). Correction is required.

The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the circular, & rhombohedron shape screen respective must be shown or the feature cancelled from the claim. No new matter should be entered.

Claims 1-9 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear what manner does the "force" (i.e. a non-[illegible] [illegible] [illegible] "compresses" the emitting surface & section [illegible] physical [illegible]). Moreover, it is unclear if the recitation of "electrons" being "directed between... to contact the emitting surface...and to contact the section" is a proper characterization, since such appears to connote bi-directional electron flow. However, the specification discloses that electron flow is uni-directional (i.e. electron flows from emitting surface to the section). Furthermore, it is unclear if the claim has positively defined a means for generating electrons such that they are directed towards the emitting surface & section.

In claim 2, it is unclear what characterizes "external forces". Moreover, note that "outside the cavity and adjacent" appears to be an incomplete recitation.

In claim 4, it is unclear how "the force" relates to "an oscillating force" as recited in claim 1. Also, it is unclear what feature "which" refers. Note that "the region between" lacks strict antecedent basis.

In claims 4,5,6,7,8 does "the screen" refer to --the double screen--?

In claims 4,8, it is unclear how the respective "mechanism" is operatively connected or arranged relative to the defined features of the "electron gun".

In claim 9, it is unclear how additional electrons are produced "due" to the striking of electrons at the respective "area" (i.e. due to what mechanism). Moreover, last two paragraphs, it is unclear how "electrons" relate to the earlier recited "first" or "additional" electrons. Furthermore, note that it is unclear how "passing" of electrons is consistent with "striking" electrons in each "area".

The following claims have been found objectionable for reasons stated below:

At all occurrences, should "the section" properly be --the transmitting and emitting section--?

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-4,6,8,9 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Hamilton.

Note in figs. 1,4, that the electron beam tube includes grid electrodes which are responsive to impinging electron in which some electrons pass through such grid electrodes and other

electrons strike the grid electrodes to generate secondary electrons. In particular, note the double screen arrangement in fig. 4. Moreover, note that the tube is configured so a to be isolated from external forces (i.e. by the shielded cavity). Furthermore, the use of electric and magnetic focussing of electrons has been recognized as an inherent feature of electron beam tubes. Note from fig. 2 the circular shape screen.

Claim 9 is rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Van Gorkom.

Note that electrons from a electron source impinge on a first area and upon striking the first area generates secondary electrons which then impinge and strike a second area thus generating further secondary electrons.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103,

the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

Claims 5,7 are rejected under 35 U.S.C. § 103 as being unpatentable over Hamilton.

Although a circular screen is disclosed, obvious alternative but equivalent types of screens (e.g. annular, rhombohedron, etc) would have been usable by one or ordinary skill in the art as an obvious design consideration depending on the type of electron gun desired.

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claim 9 is provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 10 of copending application Serial No. 651627. This is a *provisional* double patenting rejection since the conflicting claims have not in fact been patented.

The non-statutory double patenting rejection, whether of the obviousness-type or non-obviousness-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); and *In re Goodman*, 29 USPQ2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(b) and (c) may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78(d).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 9 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 10 of copending application Serial No. 651627. Although the conflicting claims are not identical, they are not patentably distinct from each other because the method claim in each application do not distinguish over each other as to the type electron gun being used therewith.

This is a *provisional* obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fremlin et al pertains to an electron beam tube using secondary electrons.

Any inquiry concerning this communication should be directed to Benny Lee at telephone number (703) 308-4902.

Benny Lee

BENNY T LEE

Lee/jm

Sept. 19,1996